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been accepted, but will not go into effect at present.

The Museum News of the Brooklyn Institute for November has a good article on Zuni masks, and notes on the recent expedition to South America which secured among other things several Matamata, *Chelys fimbriata*, and examples of the huge jabiru, *Mycteria*. Three of the Matamata have been deposited in the New York Zoological Park. The leading article in the Children's Museum section is on "The Value of an Escort" in that institution.

SOCIETIES AND ACADEMIES

THE AMERICAN PHYSICAL SOCIETY

THE fall meeting of the Physical Society was held at Columbia University on Saturday, October 19, President Edw. L. Nichols presiding.

The following papers were presented:

L. A. BAUER: "Results of Careful Weighings of a Magnet in Various Magnetic Fields."

C. B. THWING: "On the Emissivity of Molten Iron and Copper."

LEIGHTON B. MORSE: "The Selective Reflection of Carbonates as a Function of the Atomic Weight of the Base."

F. C. BROWN and JOEL STEBBINS: "The Variation of the Light Sensitiveness of the Selenium Cell with Pressure."

ERNEST MERRITT: "The Recovery of Selenium Cells after Exposure to Light."

F. L. TUFTS: "Wave-length—Luminosity Curves for Normal and Color-blind Eyes."

F. C. BROWN and JOEL STEBBINS: "The Effect of Radium on the Resistance of the Selenium Cell."

J. BARNETT: "An Investigation of the Electric Displacement and Intensities Produced in Insulators by their Motion in a Magnetic Field, and its bearing on the Question of the Relative Motion of Ether and Matter." (By title.)

It was announced that the annual meeting would be held this year in Chicago in connection with the meeting there of the American Association for the Advancement of Science during convocation week, and that in consequence the usual Thanksgiving meeting at Chicago would be omitted.

ERNEST MERRITT,
Secretary

THE AMERICAN CHEMICAL SOCIETY. NORTH-EASTERN SECTION

THE seventy-eighth regular meeting of the section was held at the Richardson Hotel, Lowell, Mass., on October 25, at 7:30 P.M., Vice-President F. G. Stantial in the chair. Forty-two members and guests were present. Professor Louis A. Olney, of the Lowell Textile School, president of the section, presented a paper upon "Standard Methods of Determining and Recording the Relative Permanency or Resistance of Coloring Matters to the Common Color Destroying Agencies."

In general the value of a dyestuff depends upon its resistance to the ordinary color weakening or destroying agencies, or to use the terms of the trade, upon its fastness. Other properties must also be considered in the ultimate valuation of a dyestuff, namely, its solubility, its affinity for fibers, and its equalizing power.

The qualities demanded of any particular coloring matter depend upon the conditions to which its uses will necessarily subject it, therefore the requirements vary greatly. Taking any dyestuff at random, we may find it to be particularly well suited for one branch of textile work, and wholly unfit for another.

With the numerous variations in requirements, the question of fastness becomes of great importance, and much responsibility rests with the textile colorist in the selection of the proper dyestuffs in any particular case. If standard methods could be established whereby the relative fastness of dyestuffs to the common color destroying agencies could be determined, and the results recorded in such a manner as to permit of their being used as standards of general reference, the problem could be very much simplified, and the reports given in regard to the properties of dyestuffs more reliable.

It was the purpose of the paper to show that the establishment of standard methods was by no means an impossibility, and to make certain suggestions, which had resulted from work carried on at the Lowell Textile School during a period of five years, with the object of formulating such methods. While the speaker was by no means ready to offer such a

series of tests, in what he could call a perfected form, he did wish to present for the consideration of the members certain phases of the work, which had been done.

The principal color-destroying or changing agencies toward which the fastness of dyestuffs are usually tested may be enumerated as follows: Fastness to light, fastness to weather, fastness to washing, fastness to scouring, fastness to milling (including felting and fulling), fastness to alkalies, fastness to acids, fastness to chlorine, fastness to sulphur dioxide, fastness to rubbing, fastness to ironing and calendering, fastness to steaming, fastness to perspiration, fastness to urine.

The paper then went into detail concerning the methods of determining the fastness of dyestuffs to the above agencies, and also the methods of recording the same. To make the record of a color complete, certain other data were also recorded namely: Its name, dyestuff concern manufacturing or selling, samples of the textile material dyed full shade, and in various percentages to indicate its coloring value, a detailed recipe of the process used in making the dyeings that are tested, its solubility, color of its solution, action of its solution with acids, action of its solution with alkalies, and finally three samples of dyed cotton and wool union material to indicate its affinity for the two important fibers, and to give some idea as to its value for union dyeing.

The paper was accompanied by many dyed and tested samples which indicated the manner in which all of the above tests and determinations of an individual color could be easily recorded upon a single folder of the proper size for an ordinary letter file.

In conclusion, it was said that the tests described had been formulated with the constant aim to make them as comparable as possible with the actual conditions of practise, and that they had been revised each time that it was thought that any change would make them approach nearer to this desired condition. In the opinion of the speaker they were subject to still further change and modification, but as he looked back to the series of tests made four and five years ago, he felt that

great improvement had been made. He was inclined to believe that all of the members present, who were directly interested in textile coloring, would agree with him that great advances could be made if color dealers and textile manufacturers in general would agree upon certain standards of fastness, and adopt uniform methods for making the various tests which, at the present time, are often so valueless, because of lack of information as to how they were made.

Much could be accomplished by cooperation, and it was sincerely hoped that the future would see an organized effort, upon the part of those interested, toward the establishment of such methods.

The paper was discussed at some length by members and guests. At the close of the meeting a vote of thanks was passed, to the Lowell members of the section for the enjoyable and instructive program and visits of the afternoon and evening, and to the managers of the several industrial plants where visits were made, for their courtesy and attention to the comfort and enjoyableness of the visits.

Preceding the meeting the members of the section were provided with a tempting lunch at the Lowell Textile School, after which the various departments of the school were visited and the students observed at their work. At 2:30 P.M. parties were formed to visit (a) the Bigelow Carpet Works, (b) the Lawrence Hosiery Mill; (c) the Lowell Gas Light Company, (d) the Merrimack Print Works. At all of these industrial plants the members were shown many interesting and instructive processes.

FRANK H. THORP,
Secretary

DISCUSSION AND CORRESPONDENCE

THE EFFECTIVE SURFACE-TEMPERATURE OF THE SUN AND THE ABSOLUTE TEMPERATURE OF SPACE

TO THE EDITOR OF SCIENCE: I have before me yesterday's issue of SCIENCE. As for myself no more striking illustration could be given of the chaotic state in which this whole disputed question of the sun's effective surface-temperature still remains, than the results obtained by Professor Poynting, as set